

REPORT ON INVESTIGATION OF CONTAMINATED FUEL

HUSKY CAR TRUCK STOP - HINTON

MAY 1990

INTRODUCTION

This report deals with the investigation of the incident that happened in Hinton, Alberta, May, 1990. Briefly stated, diesel fuel purchased from the Husky Car Truck Stop, Hinton during this period was contaminated.

The problem first manifested itself as a loss of power and function in the diesel engines. An examination of the engines affected revealed the common problem of malfunctioning fuel pumps and injectors.

More important were the health problems that developed during the time repairs were being made to the engines. People who came in contact with the fuel while trying to carry out repairs, (or for any other reason) developed health problems such as swollen hands, a staggering gait, and memory loss.

The investigation covered two time periods:

1. June 7 to August 1, 1990, being the time period when Alberta Occupational Health and Safety conducted an initial investigation.
2. May 10 to August, 1991 being the time period when a co-ordinated investigation was carried out by Alberta Environment, Alberta Public Safety Services, and Alberta Occupational Health. In order to ensure that efforts were not duplicated, the investigation was co-ordinated by the Attorney General's Department.

In addition to the above named government agencies, the Royal Canadian Mounted Police were involved because of the theft of the storage tanks after they had been removed from the service station. The police were involved in the co-ordinated investigation, as it was felt that a free exchange of information would be of assistance to all concerned and also to ensure that there was no inadvertent duplication of effort. This report will not deal with the investigation of the theft of the tanks. It is beyond the terms of the incident and furthermore, the investigation is ongoing.

Before discussing the investigation as such, certain observations must be made:

1. The investigation revealed that the incident was just as much one dealing with hazardous chemicals and the transportation of dangerous goods as it was an occupational health problem.

2. The initial presentment, i.e., a problem at a work site, and hence an occupational health problem was fortuitous. However, as a result, there was an unintended and unforeseen consequence.

The focus of the 1990 investigation became fixed with an occupational health orientation, with all the limitations imposed by the legislation. Simply stated, the focus was primarily on how the contaminant came to be on the site, its purpose, and its ultimate effect on workers. Matters such as how it was disposed of, or its transport, were not within the purview of the legislation under which the incident was first investigated. The same result would have been obtained, had the incident presented itself as one of storage and disposal of a hazardous chemical. Health effects would have been noted, and undoubtedly passed on to Alberta Occupational Health and Safety. However, the primary focus would have remained one of dealing with hazardous chemicals.

Thus, the several sided nature of the incident was not discovered, at a time when it might have offered a better chance at resolution of the problem. The fact that an investigation involving several government agencies did not start until one year after the event was another limiting factor. The passage of time meant that positions became set, and memory for finer detail (which generally provides more definitive information) fades. Given the obvious legal liabilities that flow, parties are anxious to protect their legal positions.

Lastly, an explanation about investigations generally. Even the most obvious of investigations takes time, and even the most experienced of investigators at times are unsuccessful.

The report that follows must be seen in the light of these observations.

NARRATIVE OF EVENTS

In the first part of May, 1990, the Husky Car Truck Stop, Hinton, Alberta received a shipment of 49,000 litres of diesel fuel from the Petro-Canada Refinery, Edmonton, Alberta. The delivery was made through Westcan Transportation. Shortly after the delivery (approximately one or two days later), consumers who had purchased diesel fuel from this Husky station began complaining about poor engine performance. Complaints ranged from excessive smoke from the exhaust, up to and including engines stalling unexpectedly.

A mechanic who was employed by the Husky Car Truck Stop to repair the damaged engines was exposed to the contaminated fuel on a consistent basis. Other people were affected when they attempted to deal with the engine problems themselves, or otherwise dealt with the fuel.

NARRATIVE OF INVESTIGATION

Alberta Occupational Health and Safety was first advised of the event June 7, 1990, by a local medical practitioner. As a result, Husky Calgary was contacted by AOHS for further detailed information. They were told that the suspected contaminants were butyl cellosolve and methyl cellosolve. (This latter compound has since been eliminated as a suspected contaminant.) Other information received was that a stop work order was issued May 28, 1990, and that arrangements had been made for medical examination of those involved with engine repairs. Interviews were carried out with people who were affected by the contaminated fuel, and local repair shops visited in order to ensure that accurate information respecting the compounds and safe work procedures had been implemented. Further investigations were made with the supplier and the carrier. The above mentioned activities did not reveal the origin of the contaminant or how it got into the fuel. Affected parties were given advice to submit WCB claims if they were entitled to such benefits or seek medical/legal advice if not entitled to WCB benefits.

The investigation was resumed in May 1991, employing a broader approach. In addition to AOHS, Alberta Environment and Alberta Public Safety Services were also involved. Building upon the information obtained in the 1990 investigation, the team of investigators looked into the disposal of contaminated fuel removed from the underground storage tanks. Information was obtained from Husky Calgary with respect to the missing tanks, piping and the condition of the tanks, in order to see whether or not one source of the problem might be leaking tanks. Additional analytical information was obtained. More samples of fuel were obtained for additional analysis. The people whose health was affected were interviewed.

The supplier, carrier, and lessee of the Husky Car Truck Stop were contacted and meetings were set up to discuss their individual involvement and obtain information.

A seemingly similar contaminated fuel incident that took place in May 1990 involving a coal company employee was also investigated.

INVESTIGATIONS DETAILS

The investigation carried out by Occupational Health and Safety was started about June 7, 1990. This investigation involved interviewing complainants, seizing samples and having them analyzed in their laboratory or another private laboratory. This investigation lasted approximately six weeks. The investigation was started again in May 1991 by the following agencies: Alberta Environment, Alberta Public Safety Services, Alberta Occupational Health and Safety, and the Royal Canadian Mounted Police.

As this was an integrated, co-ordinated investigation, tasks were not distributed along departmental lines. The RCMP operated as a separate investigation unit. (They were, however, included in all of

the meetings so that there could be a free exchange of information and no inadvertent duplication of efforts). Using this as a starting point the following information was obtained:

TRANSPORT COMPANY

The following information was obtained: statements from drivers and management personnel, photostatic copies of orders for fuel, and a complete report from the transporter of the diesel fuel.

EXHIBIT

Samples collected by Occupational Health in their 1990 investigation were transferred from that department and housed in Alberta Environment. Additional samples were obtained from one mechanic and one other affected party. A fuel pump from an engine alleged to have been contaminated by the fuel was also obtained.

MEDICAL INFORMATION

Only preliminary medical information was obtained, consisting of answers to questionnaires. Comprehensive medical data would be meaningless in the absence of an explanation by an expert.

ANALYSIS

The investigators collected analytical data from AOHS and from private laboratories. These were provided to the private laboratory doing the analysis in order that they might have greater background information.

INFORMATION - HUSKY

At the start of the investigation, the investigators contacted Husky, and through them were able to view the reports of the insurance adjusters. Extracts of relevant materials were obtained. A meeting was held with the Husky officials which was free and open, and which answered some questions, thus laying to rest certain activities that on the face of it were puzzling.

INFORMATION - PETRO-CANADA

A series of questions were put to counsel for Petro-Canada and answers were received on August 2, 1991. The information obtained from the answers did not assist in furthering the investigation.

PEOPLE INVOLVED

With the exception of two people who were not available the investigators interviewed the people involved in the Husky Car Truck Stop incident. Their information offered few new clues.

TAPE

Taped information, anonymously delivered to Occupational Health in the month of June 1991, was of no assistance because the person who made the tape would not come forward to discuss its contents; not withstanding several attempts made to get him to do so.

LEGISLATION CONSIDERED

Criminal Code:

- S. 221 - Criminal negligence cause bodily harm.
- S. 180 - Common Nuisance
- S. 139 - Obstruction of Justice

Provincial Statutes:

- Occupational Health and Safety Act
- Transport of Dangerous Goods Control Act
- Hazardous Chemicals Act and Regulations
- Public Health

FINDINGS

1. There was an incident in May, 1990 that involved diesel fuel at the Husky Car Truck Stop.
2. People who purchased fuel there during that time period have had problems with their engines. These problems all revolve around the fuel pump/injectors.
3. The health effects complained of are in the opinion of the occupational health specialist who has examined the people, real.
4. Although there are problems with continuity of the samples, the laboratory is satisfied that one of the contaminants is butyl cellosolve (an industrial solvent) which is common in diesel fuel additives.
5. Information received from the corporations contacted, while it does answer some questions, does not further the investigation as it provides no further information as to how the fuel became contaminated.

RECOMMENDATION

The investigation into this matter co-ordinated by the Attorney General's Department is now concluded. We are still left with an incident that is unresolved and unanswered. The information that has been gathered reveals no evidence upon which to base either prosecutions under the Criminal Code, or prosecutions under an Occupational Health/Environmental statute.

Appendix A

HUSKY CAR TRUCK STOP - HINTON

CHRONOLOGY OF EVENTS

1990

<u>DATE</u>	<u>EVENTS</u>
May 9	Diesel fuel delivery - Westcan, 49,000 litres from Petro-Canada Edmonton Refinery.
May 10	Minimal water evident (3.5 cm total in both tanks). Service company is on site to carry out syphon repairs.
May 10-13	First diesel engine problem complaints from public directed to Hinton Husky Car Truck Stop.
May 14	21 cm water evident (total both tanks); tank 4 = 14 cm water; tank 5 = 7 cm water. Total 2,000 litres pumped out of underground storage tank (water/fuel) and disposed to landfill. First diesel engine repair attributed to fuel problems being carried out by mechanic. Hinton Husky Car Truck Stop advised Husky Calgary of water in tank.
May 15-16	Service company returns to site - repairs to syphon system, tested diesel underground storage tank vent lines, pressure tested tanks, assisted in the pump out of water from both tanks.
May 15	Diesel delivery of 40,000 litres by Westcan from Petro-Canada refinery Edmonton.
May 16	Hinton Husky Car Truck Stop advised Husky Calgary of milky coloured diesel fuel.
May 18	Hinton Husky Car Truck Stop submits fuel samples to Core Lab.
May 23	Delivery of 29,500 litres of diesel fuel by Westcan from Petro-Canada Edmonton Refinery.

May 25 May 18 samples were referred to Envirotest for analysis.
Mechanic advised Hinton Husky Car Truck Stop they still have problems with their diesel fuel.

May 28 Mechanic contacted by medical doctor seconded to Husky. Mechanic told to stop working on diesel engine repairs because of emerging health impacts.

Phone call from Envirotest to Calgary Husky office advising of butyl cellosolve in samples.

Calgary Husky advises Hinton Husky Car Truck Stop of butyl cellosolve in samples.

Diesel sales stopped at Hinton Husky Car Truck Stop. Tanks pumped out (44,100 litres) for shipment to Husky refinery in Prince George, B.C.

May 30-31 Pressure testing being carried out by a second service company. Test results inconsistent with testing May 15/16.

May 31 Notice from Husky Calgary to all truckers re: contaminated fuel.

Tanks being removed and left Hinton for Edmonton.

Appendix B

CHRONOLOGY OF INVESTIGATION - 1990

<u>DATE</u>	<u>ACTION TAKEN</u>
June 7	Alberta Occupational Health and Safety (AOHS) was notified that workers' health was being affected by possible exposure to contaminated fuel at/from the Husky Car Truck Stop in Hinton, Alberta. AOHS contacted Husky Oil in Calgary, requesting an immediate explanation. The company identified the contaminants as Butyl Cellosolve (Ethylene Glycol Monobutyl Ether) and Methyl Cellosolve (Inhibited 2-Methoxyethanol). AOHS was also informed that Nova Corporation, Husky's parent company, was involved and had issued a stop work order on May 28, prohibiting repairs to all vehicles that were affected by the contaminant until safe work procedures were developed and all affected parties notified. Medical examinations for those workers exposed to the contaminant were arranged by Husky.
June 8	A mechanic, who had been involved with repairs to affected vehicles since May 14 came to AOHS, was interviewed and provided a written statement outlining his experience with the contaminated fuel. Acting on the information received, AOHS contacted insurance adjusters who were involved in arrangements for vehicle repairs on behalf of Husky Car Truck Stop. AOHS received from them an information package including Material Safety Data sheets describing the contaminants and recommended procedures for containment and personal protection. These adjusters were monitoring the repair arrangements and were fully aware of AOHS regulatory requirements.
June 14	AOHS visited the Husky Car Truck Stop in Hinton, interviewed the station manager and the service manager. They did not report any health problems with any of their employees. The station appeared to be operating normally.
June 15	An individual telephoned AOHS reporting symptoms consistent with those reported by the mechanic. This individual and his wife were interviewed on June 20.

- June 20 AOHS visited several local auto repair shops to ensure that the information on the suspected contaminants received from Calgary Husky and their adjusters was accurate and complete.
- Four fuel samples were obtained during these visits.
- June 22 AOHS went to the office of the insurance adjuster. Information was also obtained as to the identities of the supplier and carrier. AOHS also went to the office of the carrier and obtained information on loading, transport and delivery of fuel to Hinton.
- June 25 AOHS went to the refinery, inspected the facility, and checked the loading procedures including piping arrangements.
- June 26 AOHS went to Hinton and interviewed the lessee of the Husky Car Truck Stop. Obtained volume control records for the month of May.
- June 27 AOHS contacted Husky Calgary personnel concerning the incident.
- June 28 AOHS contacted the transport company with regard to transport of the underground storage tanks.
- June 27/28 AOHS staff visited Hinton and interviewed nineteen employees.
- July 10 AOHS contacted Husky Calgary to determine the integrity of the tanks and piping prior to removal.
- August 1 A meeting of concerned citizens was held in Hinton to discuss the contaminated fuel incident. The meeting was chaired by the Mayor of Hinton.
- AOHS attended this meeting and briefed the assembly.
- August 1 AOSH was satisfied that vehicle repair shops, which might work on vehicles with contaminated fuel systems, had been provided with adequate information to safely work on the vehicles and further active investigation was suspended pending receipt of further information. AOHS was unable to discover the origin of contaminant or how it got into the fuel. Affected parties were given advice to submit WCB claims if they were entitled to WCB benefits or to seek medical/legal advice if they were not covered by WCB.

Appendix C

CHRONOLOGY OF INVESTIGATION - 1991

<u>DATE</u>	<u>ACTION TAKEN</u>
May 10	Contact by RCMP regarding Hinton Incident.
May 14	Interview with RCMP re: Hinton Incident Information.
May 13	Meeting with Hinton RCMP and Hinton Fire Chief. RCMP have no files on situation. Hinton Fire Department has no file on tank removal but did have tank pressure test results on new replacement tanks. Preliminary contact made with two affected parties. Preliminary contact with Hinton Husky Car Truck Stop.
May 14	Alberta Environment and Alberta Occupational Health and Safety Investigators meet. Preliminary contact with Husky Calgary.
May 15	Telephone contact with Hinton Public Works re: oil storage and records of materials to Hinton landfill. Contact with Yellowhead Health Unit re: soils contamination.
May 23	Contact with Turbo Resources regarding oil recycling from Hinton landfill. Received call from another affected party regarding his exposure to contaminated fuel.
May 24	Husky Calgary offers to discuss situation.
May 28	Arranged for sample of frac fluid.
May 30	First meeting with Husky Calgary to discuss matter and review documentation.
May 31	Meeting with Adjusters to review and copy Husky's documentation.

June 4 Trip to Hinton for additional interviews with 3 affected persons. Purchased diesel fuel conditioner which contains Butyl Cellosolve from Hinton Husky Car Truck Stop. Looked at physical layout of service station.

June 5 Meeting between Alberta Environment, Alberta Occupational Health and Safety, Alberta Public Safety Services, RCMP.

June 6 Meeting with Attorney General's office to set program for coordinated investigation.

June 10 Picked up sample of Frac Fluid.

June 13 Received meteorological data from Atmospheric Environment for Hinton area for April and May 1990.

June 14 Questions directed to Husky Calgary.

June 18 Obtained statement from a witness re: disposal of fuel from underground storage tank by an employee of Husky Car Truck Stop.

June 19 Investigation Team review meeting.

June 20 Obtained fuel sample from affected party.
Received first answers from Husky Calgary.
Additional statement re: service company dealing with tank and line repair.

June 21 Visited mechanic and obtained additional samples.

June 24 Interview with Hinton Public Works. Requested copy of landfill record regarding Husky Car Truck Stop load to waste oil system.
Took samples to Envirotest for analysis.
Investigation samples stored at McIntyre Building.
Interviewed an oilfield transportation company and obtained one sample of diesel and oilfield additives for comparative analysis.
Investigation team review meeting.

June 25 Delivered additional samples to Envirotest.
Called ERCB, Drayton Valley, re: well workovers.
Additional questions sent to Husky Calgary.

June 26	Contact Husky Calgary re: availability of serial numbers from missing tanks.
June 27	Husky Calgary advised they have no record of serial numbers of tanks.
June 28	Contact with affected party who had used "Kleen-Flo" Flow diesel conditioner in his vehicles to try to solve problems. Contact with affected party regarding samples.
July 2	Investigation Team review meeting.
July 3	Receipt of answers from Husky Calgary.
July 4	Investigation Team review meeting.
July 8	Contact with oilfield service companies. Requested samples of additives used with diesel fuel and cellosolve.
July 18	Trip to Hinton for taped interviews with five complainants. Occupational Health specialist also in attendance to conduct separate interviews. Obtained damaged diesel motor fuel pump (damaged May 1990 related to Husky diesel fuel).
July 19	Fuel pump to Envirotech.
July 22	Contact with a truck company safety supervisor for a description and map of the tank truck loading terminal at Petro-Canada, Edmonton. Investigation team meeting.
July 23	Investigation team meeting.
July 24	Interview with Husky officials in Calgary.
July 25	Investigation team meeting. Receipt of information on diesel fuel additives. Contacted Hinton Husky Car Truck Stop to set up interview.
July 26	Interviewed employee and lessee of Hinton Husky Car Truck Stop and met with Hinton RCMP and Hinton Deputy Fire Chief. Meeting with personnel at Cardinal River Coal to discuss similarities of incident at Cardinal River Coal to incident at Hinton Husky Car Truck Stop. Interviewed mechanic regarding incident.

July 29

Additional samples delivered to Envirotech for analysis.

Investigation team review meeting.

August 1

Received information from Cardinal River Coal re: related incident.

Received information from Petro-Canada.